

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

October 2008

Counting More Than the Gate: Developing Building Use Statistics to Create Better Facilities for Today's Academic Library Users

Daniel S. Dotson

Ohio State University - Main Campus, dotson.77@osu.edu

Joshua B. Garris

University of South Carolina, jbgarris@gwm.sc.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Dotson, Daniel S. and Garris, Joshua B., "Counting More Than the Gate: Developing Building Use Statistics to Create Better Facilities for Today's Academic Library Users" (2008). *Library Philosophy and Practice (e-journal)*. 208.

<https://digitalcommons.unl.edu/libphilprac/208>

Counting More Than the Gate: Developing Building Use Statistics to Create Better Facilities for Today's Academic Library Users

Daniel S. Dotson
Science and Engineering Library
The Ohio State University
Columbus OH 43210

Joshua B. Garris
University of South Carolina
Thomas Cooper Library
Columbia SC 29208

Introduction

Use of facilities is an issue of great importance to academic libraries. As the academic library is increasingly called upon to justify its existence through performance measures that are linked not only to their own strategic planning process, but that of their parent institutions (Hiller and Self, 2004), the need to acquire the necessary tools and/or methodologies to effectively and efficiently evaluate library functions is becoming a top priority. With an increasing amount of information available remotely, users do not have to come into the physical library to meet many of their information gathering needs. Whether the gate count is decreasing or increasing, what are academic library patrons using while they are in the building? In 2002, the University of South Carolina's main library, Thomas Cooper Library (TCL), began examining use patterns within the facility by conducting a detailed and systematic count of patrons in all public areas.

What is the purpose of such a study? Traditional library statistics employ data such as gate counts and circulation statistics. While these may provide an idea of how much the library is being used, they do not give a clear indication of the use of particular physical resources. Information collected through random surveys shed some light on the issue, but they cannot capture every individual. Quantitative data can be collected from the study described herein; providing the library with concrete evidence of how much and how often its physical resources are used. This evidence may provide the necessary data to support increasing support for resources that are being used, and the reduction or removal of underused resources to make way for those in greater demand.

Review of Literature

When the Royal Library of Alexandria opened in the 3rd century BC (Wiegand and Davis, 1994), there was no need for building use statistics. As largest library in the known world at the time and lacking the now ubiquitous Internet, why would you need to know if people were going to use your services? You could assume that those who needed to do so would travel to gain access to the wealth of information housed within your collections for the simple reason that no other collection could compare to your offerings. In modern times, academic libraries are constantly wondering if they will be relevant in an electronic age; an age which allows researchers at all levels of scholarship access to vast quantities of

information via the World Wide Web. This conundrum has led many to ask the question, is the physical library still a vital component of the research and education process (Carlson, 2001)? These statements have even led to the resignation of a library director, due to self-perceived lack of support of upper level administrators (Albanese, 2003).

Hundreds of articles have been written on the topic of statistics and their use in libraries. The need for statistics is driven by the desire of administrators and librarians to know how their collections, services, and spaces are being used by those they serve. Libraries are now entering an age of not only statistics gathering, but also of assessment. Assessment is a process by which administrators and librarians learn about their communities and evaluate the ways in which the library and its services support them (Storey, 2006).

The cornerstones of data collection in libraries are collection size, budget, serial holdings, and number of staff. These measures sufficed when the primary goal of libraries was collection building (Weiner, 2005). This information was collected periodically and then reported to an overseeing agency or department often with the simple goal of increasing or improving on the previous year. The question now is: do these measures accurately depict the value of the academic library within the modern university/college environment (Kyrillidou and Crowe, 2001)?

Allocation and use of space in libraries has always been a complex issue and most libraries will need more physical space in the future (Crawford, 1999). As libraries adapt to the demands of their users, the concept of "library as place" is becoming an area of greater concern (Storey, 2006). In an earlier work, Leighton and Weber erroneously predicted that "over the next decade, the computer will not be an instrument that is carried around more than was the portable typewriter in the 1950s. The real workhorse for readers as well as staff will remain a unit that is not portable" (Leighton and Weber, 1989). Library administrators and planners who followed this advice were safe, but only for that decade, based on current use trends found in today's academic libraries. Those currently working in libraries can certainly attest to the rampant use of mobile technologies in the form of laptops, PDAs, cell phones, etc. Furthermore, studies have found that priorities differ among groups commonly found on college and university campuses (Hiller, 2001). With administrators and librarians still wanting to provide traditional services and students demanding a large degree of portability, there is no need to wonder why so many of today's academic libraries are unable to meet the demands and needs of their users. These libraries are now faced with the increasingly difficult and costly struggle to meet current needs as well as plan for future expectations. Fox (2004) explores this crazed dash to renovate and build libraries in an article that discusses 203 public and 36 academic building projects from July 1, 2003 to June 30, 2004. Shill and Tonner (2004) explore the impact of these new and newly renovated facilities. The modern library is becoming a place that promotes social interaction, relaxation, group study, and countless other services not traditionally thought of as integral parts of the academic library (Freeman, 2005).

Door Count

Many academic libraries use door count data to determine building use. However, door count is only a measure of patron entrances and exits, not where they went or what they used in the building. TCL has used a manual door count of people exiting the building since the mid-1990s. A person at the exit gate clicks a counter for each person who leaves. The library added an electronic counter to obtain an entrance count in July 2002; however, the counter was not always accurate. In one instance, a wastebasket was placed in front of the counter, which led to a period of missing data. Analyses of door count records for the past few academic years have shown increases. The door count rose steadily from 2002 to 2006, with a slight decline in 2005. From 2002 to 2006, TCL has seen increase of more than 24% in its door count. In light of these increases in use, how are patrons using the Library's physical resources? How can TCL capitalize on the changes that prompted these increases in use? These are the questions for the present study.

Table 1: Yearly Door Count

Year	2002	2003	2004	2005	2006
Doorcount	456083	494220	517998	513792	567342

Examining the average door count for each day of the week, several observations can be made

- 2006 saw the highest average on each day.
- Monday, Tuesday, and Wednesday have the highest average door count for each year.
- Saturday had the lowest average counts for each year and saw the smallest change from 2002 to 2006, a 3% increase.
- Wednesday saw the greatest change, with a 33% increase from 2002 to 2006.

Table 2: Average Door Count For Each Day

Day	2002	2003	2004	2005	2006	5 Year Average
Sunday	945	981	965	915	995	960
Monday	1815	1995	2092	2089	2267	2052
Tuesday	1811	1968	2038	2097	2184	2022
Wednesday	1705	1934	2024	1995	2266	1986
Thursday	1502	1587	1682	1668	1886	1666
Friday	932	995	1041	1025	1150	1028
Saturday	470	457	441	448	485	460

Facility Description

TCL was originally built as an undergraduate library for the students of the University of South Carolina's Columbia campus. The original building consisted of three levels (Mezzanine, Main, and Ground). An addition was later made to the rear of the original building. This addition combined graduate and undergraduate libraries into one facility. The combined libraries resulted in a building with seven levels, four of which are totally below ground. The following table lists the levels of TCL and the various resources and features found on each of them. Some features have changed over time due to renovations and shifting of collections.

Table 3: Thomas Cooper Library Floors

Level	Resource Type	Resource	Years on Floor (2002-2006)
Mezzanine (Mezz)	Offices	Administration	2002-2006
	Service Points	Rare Books	2002-2006
	Stacks	Stacks T-Z	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2005-2006
Main	Offices	Acquisitions, Cataloging	2002-2005
	Service Points	Circulation Desk	2002-2006
		Reference Desk	2002-2006
	Stacks	Reference Stacks	2002-2006
		Study Desks	2002-2006
	Study Space	Additional Individual Study Desks	10/2005-2006
		Study Tables (Reference Area)	2002-2006
		New Study Tables (Reference Area)	2005-2006
		New Study Tables (old Tech Services Area)	2005-2006
	Technology	Reference Computer Pods	2002-2006
Level 5	Offices	Acquisitions, Cataloging	2005-2006
	Service Points	Government Documents/Microforms	2002-2006
		Map Library	2002-2006
	Stacks	Education Stacks	2002-2006
		Juvenile Stacks	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2002-2006
	Technology	Computer Lab	2002-2006
Level 4	Service Points	Science Reference	2002-2006
		Government Documents Computer Lab	2002-2006
	Stacks	Stacks Q-S	2002-2006
		Stacks T-Z	2006-2006
		Science Reference Stacks	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2002-2006
		Study Carrels	2002-2006
Level 3	Technology	Science Reference Computer Pods	2002-2006
	Stacks	N-P	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2002-2006
		Study Carrels	2002-2006
Level 2	Technology	Multimedia Classroom	2002-2006
	Stacks	E-K	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2002-2006
		Study Carrels	2002-2006
Level 1	Technology	Multimedia Classroom	2002-2006
	Study Space	Study Desks	2002-2006
		Study Tables	2002-2006
		Study Carrels	2002-2006
	Stacks	A-D	2002-2006

Areas

Many areas throughout the building were examined using building-wide usage statistics. Table 4 describes the areas examined.

Table 4: Description of Areas

Area	Description
Group Tables	Tables that can hold multiple people and often used for group working or studying
Individual Desks	Desks designed to hold one person and not touching other desks.
Connected Desks	Same as above, except these are found in various formations with the sides of desks touching.
Study Carrels	A small room closed off with a door, but open on the top and bottom. Used by mostly faculty and graduate students, with the key obtained from the Circulation Desk. Found behind a locked door on Levels 1-4.
Stacks	Locations where books and/or bound journals are found.
Catalog Computer	Computers with only the catalog being accessible.
Internet-Accessible Computers	Public computers with an internet connection and other applications. Found near service desks in each location.
In Transit	People not in a specific area that are walking.

Methodology

A study conducted by two librarians at TCL in the mid 1990s indicated that in order the library could sample statistics three times per year during a low, medium, and high-use week and use multipliers to get a viable estimate of yearly reference statistics (Lochstet and Lehman, 1999). The statistics are taken one week in June (low-use), October (high-use), and November (medium-use). The study found that low, medium, and high-use data should be multiplied by nineteen, twenty, and thirteen respectively (an estimate of low, medium, and high use weeks) to achieve a yearly reference question metric.

In order to make the collection of building use statistics more cost effective, TCL decided to sample during the same weeks as reference statistics. Data collected during these building surveys are not replacements for a daily door count, but are a means to measure use of physical resources. The building survey is a count of persons located in the library. Library staff are assigned various sections to survey at the beginning of each hour. Surveyors are asked to follow the same path from hour to hour, which encourages them to count each area at approximately the same interval during their scheduled counting period.

Building Usage

The data from the surveys indicate the usage of specific physical resources within the building. Note that an individual could be counted multiple times in the same or different location throughout a given day. This observation may provide some indication of the user's duration of stay, but this aspect has not been addressed by this study.

In addition to the use of physical spaces, the data also indicated such factors as how much certain floors were being used and the number of people on the various floors during each hour of the

survey period. Such information is valuable because it allows library personnel to examine which floors are used highly and then determine if the amenities available on those floors can be replicated elsewhere in the facility. For example, the most heavily used floors are Level 5 and the Main Level; whereas, the least-used floor is the Mezzanine Level. Also, the number of people on the various floors during given hours may lead to staffing implications. Since the hours of operation differ, the total count for the day divided by the number of hours in the survey indicates the average number of people in the building at any given hour of each day. The data indicates that Monday, Tuesday, and Wednesday tend to be the busiest days and Saturday is by far the slowest day. This has been validated by the door count data. Another useful bit of information may be obtained by dividing by the number of hours. This calculation indicates that Sundays regularly surpass Thursdays, Fridays, and Saturdays in terms of use.

This finding became useful to TCL's administrative group after they were approached by the campus's Student Government Organization requesting that the Library remain open 24/7. With this new found understanding of usage patterns, the Library was able to justify being open 24/5 instead of the requested 24/7. Presently TCL offers 24 hour access Sunday through Thursday, providing researchers with extended hours on the days they are more likely to need them.

By examining usage by hour, the busiest time of day was determined for each floor by averaging the counts over the past five years. Examining the highest overall averages, the 8 pm hour was found to be the busiest time on most floors. The period of maximum usage tends to occur most often in afternoon or evenings. Looking at the overall maximums, only one occurred before 4 pm (occurring on Level 2 at 2 pm). Such data may provide useful insight in terms of staffing and when the building sees its peak usage.

Additionally, Main and Level 5 showed the highest usage. A presentation held in the Rare Books and Special Collections area on graphic novels during the November 2003 building survey period resulted in the Mezzanine Level having the third highest maximum. This anomaly resulted in a much higher quantity of users on that floor than is normally encountered. While such an instance of a large group in the Rare Books room is unusual, the area does sporadically have special events that produce higher-than-normal use for the floor. Upon inception of 24-hour access, the Library attempted to use only the top most levels (Mezzanine, Main, and Level 5). Coincidentally, Main and Level 5 are the buildings most heavily used floors. At the time the belief was that these were the most securable floors due to the building's design and the reality that the vast majority of patrons would already be located there, so closing the lower levels would not be an issue. This was short lived as these levels quickly become over crowded and resulted in the entire facility being open during 24 hour periods. The popularity of "Club Cooper" as coined by an article in *The Gamecock* (the Campus's student newspaper) is an example of the effective use of quantitative data to exact important and desirable change (Stoudenmire, 2006) .

Internet-Accessible Computers

Computers are a source of high use in the library. Table 5 indicates the number of users sitting at computer workstations during the count weeks:

Table 5: Total Internet-Accessible Computer Usage

	June					October					November				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Total	2085	2197	2241	1801	1788	4927	5041	5378	5026	5318	6561	6374	6955	6757	7001
Main	564	531	665	642	831	841	1021	1272	1388	1830	1110	1213	1454	1703	2329
5	1435	1492	1433	1015	880	3893	3755	3904	3418	3313	5229	4930	5279	4786	4460
4	86	174	143	144	77	193	265	202	220	175	222	231	222	268	212

Looking at overall computer use in the library, Level 5 computers (the Computer Lab and the Government Documents Computing Center) have shown a slight decrease in use over the five years

examined while the use of the Main Floor computers show a slight increase over the same period, possibly due to the addition of Microsoft Office to reference research computers in August 2005. Additionally, as users enter the building the Reference Computing Area is immediately visible while other computing areas are not as readily apparent. Use of Level 4 Science Library computers have fluctuated over the past five years, but saw 2006 as its year of lowest use. Note that the presence of Microsoft Office is not made obvious nor is it promoted on computers located in public computing spaces in the Science Library (Level 4) or Government Documents (Level 5).

The Computer Lab was the most used area of the building until extra group tables were added to the Main Level in the Fall 2005 and MS Office was added to Reference area computers.

Group Tables

Group tables also showed a high use in the building. Looking at the data collected from the first three years of statistics (2002-2006), it was clear that many people were using group tables. These findings were used to facilitate a move towards the addition of more group tables in the library. Additional group tables were added to the Main floor in Fall 2005. From the data collected, the usage of group tables has dramatically increased with the addition of these tables, showing that the group tables were indeed warranted.

Table 6: Total Group Table Usage

	June					October					November				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Total	667	730	602	559	848	1977	2008	2458	3720	6003	2429	2408	2439	4085	6070
Mezz	n/a	n/a	n/a	53	29	n/a	n/a	n/a	126	0	n/a	n/a	n/a	129	33
Main	388	382	325	358	646	804	882	1048	2518	4359	1029	1135	1111	3034	4605
5	115	195	173	2	59	555	521	615	192	864	558	585	630	211	759
4	52	61	30	63	41	79	101	150	155	164	129	167	163	212	181
3	39	44	40	34	33	130	178	224	203	234	222	214	208	130	159
2	24	27	19	25	17	156	149	193	151	154	199	128	160	144	135
1	49	21	15	24	23	253	177	228	375	228	292	179	167	225	198

Use of group tables on the Main Level skyrocketed between 2005 and 2006 after another set of group tables was added. Also, Level 5 group table use decreased after tables were removed due to renovations on that floor, but returned to previous patterns of use after tables were again added.

Individual Desks

Individual desks showed a sharp increase after 2004. Part of this increase could be explained by the addition of individual desks to Level 5, which previously contained connected individual desks prior to the move of the Technical Services Department to that floor.

Table 7: Total Individual Desks Usage

	2002			2003			2004			2005			2006		
	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov
Total	300	1349	1403	303	1420	1265	371	1288	1415	353	1812	1787	338	1939	2278
Mezz	13	118	63	17	122	120	26	64	91	18	126	70	8	0	5
Main	221	699	808	218	882	768	248	761	793	237	952	909	232	1032	1214
5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3	117	194
4	17	215	133	21	121	112	34	168	205	30	198	303	18	276	366
3	21	87	159	13	83	83	30	126	143	32	212	177	38	255	220
2	8	124	118	19	115	88	20	106	91	31	185	191	13	146	173
1	20	106	122	15	97	94	13	63	92	5	139	137	26	113	106

Connected Individual Desks

As described in Table 4, connected individual desks are desks that are arranged in various configurations in which they touch. As indicated by survey results, their usage dropped after 2004. This was in part due to their removal from Level 5 upon the relocation of Technical Services to an area previously occupied by them and the Library's Education Collection.

Table 8: Total Connected Individual Desks Usage

	2002			2003			2004			2005			2006		
	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov
Total	311	1557	1607	262	1473	1731	221	1714	1770	250	1233	1111	150	1196	1102
Mezz	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Main	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
5	112	717	703	98	627	846	84	938	854	n/a	n/a	n/a	n/a	n/a	n/a
4	88	166	182	38	137	193	32	56	162	64	412	318	27	336	319
3	46	236	249	39	232	217	45	303	295	100	335	316	56	375	335
2	45	264	264	58	252	247	42	287	286	68	284	301	45	256	225
1	20	174	209	29	225	228	18	130	173	18	202	176	22	229	223

Carrels

There are over 800 small carrels distributed over the lower four levels of TCL. These carrels occupy approximately 20,000 square feet of space. Carrels were designed to be study spaces for faculty and graduate students. Patrons in possession of carrels have the option of checking out circulating materials to their carrel, so that the items will be available when they are needed. Carrels have shown to be of extremely low use. These surveys have supported previous assumptions that these areas were being seriously underused. While these spaces are being used by some, they are definitely in surplus.

Table 9: Total Carrel Usage

	2002			2003			2004			2005			2006		
	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov	June	Oct	Nov
Total	94	296	359	82	259	293	43	138	408	65	263	248	82	234	310
4	24	91	73	17	38	26	11	106	128	35	149	122	54	115	116
3	35	51	91	16	48	37	8	8	82	6	57	60	18	81	141
2	35	150	195	49	170	208	23	23	175	22	44	43	10	30	38
1	n/a	4	0	0	3	22	1	1	23	2	13	23	0	8	15

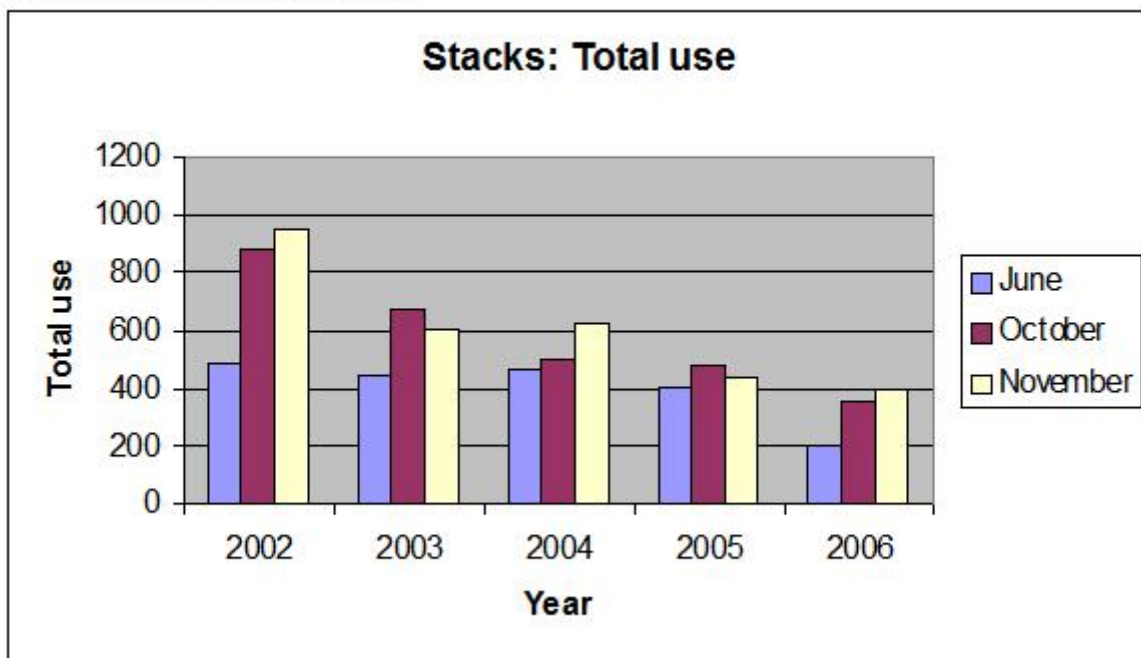
*Note: No carrels are on Main or Mezzanine and Level 5 Carrels were not counted.

Stacks

Chart 1 shows the total number of users found in the stacks for that particular week. Please note that "Main Level" stacks are composed of non-circulating reference materials. Also note that Level 5 and Mezzanine stacks have changed over time. Please see Table 3 for details on Library of Congress call number ranges and changes in stack locations.

Although some increases have been seen over the years, in general the number of people found in the stacks has been decreasing steadily over the past five years. As larger renovations are planned this could potentially lead to a redesign of stack levels. These stack levels could incorporate the use of compact shelving, further increasing the quantity of desirable public spaces.

Chart 1: Total Stack Usage

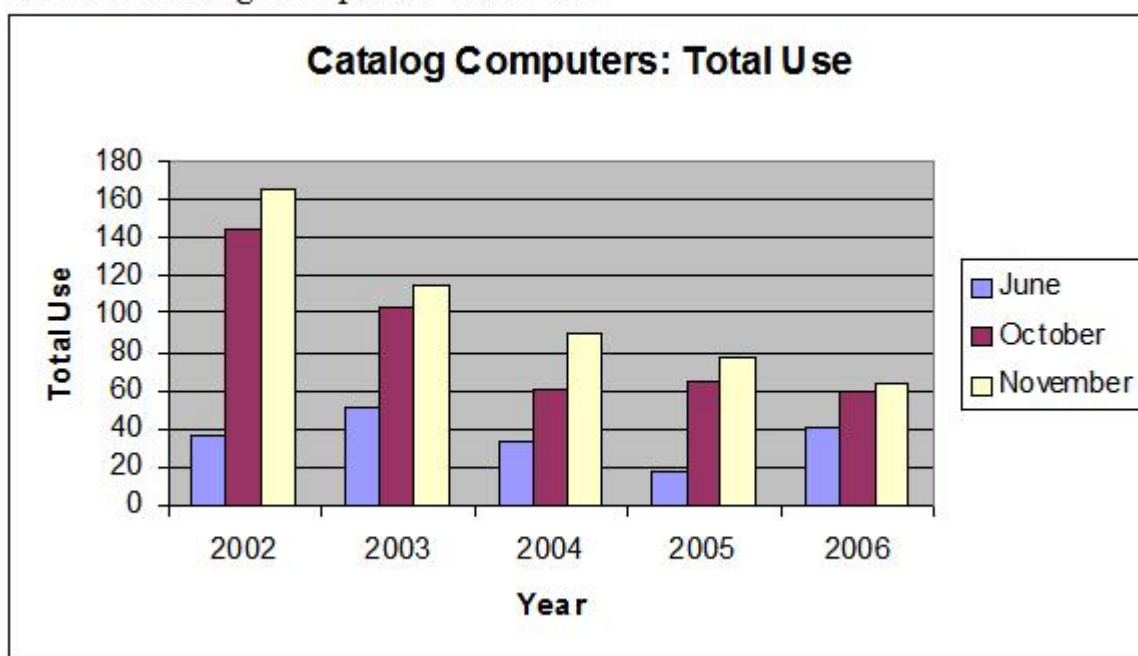


Catalog Computers

While Internet-accessible computers have shown increases, the use of catalog-only computers has decreased. Several possible factors attribute to this trend, including that of patron preference for

unrestricted computer access and the removal of catalog-only computers on the Mezzanine and Fourth levels.

Chart 2: Catalog Computers: Total Use



In-Transit

Users who are moving around and not in one specific area are counted as in-transit. The number of in-transit users fluctuated greatly over the years. In-transit data was not available for the Mezzanine Level for part of 2006 due to renovations.

Table 10: Total In-Transit Counts

	June					October					November				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Total	991	1036	937	793	701	2341	1590	1979	1998	2085	2832	2174	2066	1902	2166
Mezz	80	81	58	44	70	134	97	83	77	n/a	120	81	54	96	n/a
Main	307	302	217	187	258	731	645	473	641	1109	851	694	503	658	1168
5	217	155	232	120	166	557	97	631	439	466	654	613	701	487	504
4	151	213	216	250	49	239	278	315	389	130	389	250	313	280	170
3	90	119	98	72	73	244	175	271	169	135	315	228	187	160	149
2	87	110	73	58	45	214	168	111	148	126	287	191	197	120	94
1	59	56	43	62	40	222	130	95	135	119	216	117	111	101	81

Overall Trends

- Library use in general has shown an overall increase, up approximately 24% from 2002 to 2006.
- Group tables, individual tables, and Internet-accessible computers have shown increases in usage
- Stacks, connected individual desks, and catalog computers have shown decreases.

- Carrel use and people in transit have fluctuated over time, but carrel use remains low relative to the number of carrels within the building

Some Responses to Trends

In response to high use of group tables, TCL has twice added group tables to its Main Level. A large number of tables were added in the Fall 2005. Additional tables were later added in response to their high-use.

The high-use of computers in the Level 5 Computer Lab and extension of building hours to include 24/5 access contributed to the decision to allow word-processing software on the Main Level Reference Area computers.

Some graduate study carrels have been targeted for redesign into new classrooms, group study, and office spaces. To date all carrels on Level 2 have been converted. The first phase of renovations went towards a temporary study facility for the Athletics Department. The second phase is underway with the creation of a Center for African and African American Studies Research.

A lot has been done to meet the needs of people who like to or need to study in groups. That being said, we have not ignored the individual. The provision of a variety of seating options is still important and to that end individual desks have also been added.

The stack area of the Mezzanine Level was yet another area that was being underused. All print materials formally located in this area have been redistributed to other stack levels and the remaining space has been converted into an area for group and individual study. This was made possible by a collaboration of the Library and the Student Success Center (SSC). SSC is a relatively new entity on the University's Campus. SSC is mandated with the task of increasing the University's retentions rates by assisting students in their acquisition of the necessary tools required for a successful academic career.

Conclusions

Determining how much a library's facilities are being used by its patrons is an effort that every library should attempt. Realizing that this is no small task, the method currently used by TCL provides a viable alternative to daily data collection. The use of physical spaces and services in TCL has changed over time and performing building use studies provides the quantitative data necessary to make effectual decisions about how facilities should be changed or modified to meet the needs of an ever changing patronage. From the early data in the building usage study, TCL found that the library had a high use of study space, especially of group tables. This enabled the library to justify the need for additional group study tables and led to a major renovation in order to make space for these group tables. This space is not only study space, but study space that is highly visible. TCL is unique in that it is primarily underground. Results have shown that a large portion of TCL's users seem to congregate on the above ground floors. This is indicted by the significant increases in use of the Level 5 and Main Level study areas upon completion of renovations. After the additional group tables were added, increases in the use of study tables showed that the tables were indeed wanted by students and led to further additions of group tables and plans for additional group seating. The building survey gave TCL an opportunity to examine exactly what physical resources people are using in their facility and then use that information to make improvements to existing resources, services and spaces. The Library is currently completing renovations to its Mezzanine Level by adding more group study tables, individual desks, and soft seating to complement other highly used and recently renovated areas. The addition of study spaces has also made the need for electrical power more apparent. Many patrons need access to electrical power for their various electronic devices. To meet this newly found need, outlets and power strips have been added to study areas wherever possible.

This study demonstrated that access to full service computing areas is very important to library users. This has also been illustrated by the spike in usage of computers on the Main Level and slight decrease in use of computers in the Level 5 Computer Lab after the addition of the Microsoft Office suite to computers in the Reference Department's computing area. Initially, the addition of Microsoft Office to computers in this area was a point of contention among some librarians. This disagreement was primarily due to fear of losing computer access to patrons that were not performing research activities. By making these computers fully functional, librarians have discovered that their users truly multitask. Not only are their users performing research, but they are checking email, word processing, instant messaging, and at times even asking for reference assistance. Conversely, computers with less functionality (i.e. Government Documents Computing Lab, Science Library computers, and Catalog terminals) are not used to the same extent.

Stack browsing has declined over the years as indicated by this study. Today's academic library users seem to browse considerably less than in years past. If "browsing" is done at all it seems to be done via the computer. This decrease in browsing behavior is yet another indicator of the ever evolving library user.

Services once demanded by previous generations of patrons are not necessarily needed by modern researchers. For instance, the study carrels showed some use over the years. However, their use is by far dwarfed by the number of available. Carrels occupy a huge amount of space within TCL. These areas are currently being reevaluated as areas of possible expansion for conversion into new facilities to meet the needs of current and future patrons. Although carrels are being used, is the space taken up by them being used to its highest potential? That is now the question in need of being answered. The information collected during these surveys has great implications on the future endeavors of TCL and will be continually used to add resources and improve its spaces.

References

- Albanese, A. R. (2003). Deserted no more. (cover story). *Library Journal* 128(7), 34.
- Carlson, S. (2001). The deserted library. *Chronicle of Higher Education* 48(12), A35.
- Crawford, W. (1999). Library space. *Online* 23(2), 61.
- Fox, B.-L. (2004). Spend billions and they will come. *Library Journal* 129(20), 48.
- Freeman, G. T. (2005). *Library as place: Rethinking roles, rethinking space*. Washington, D.C.: Council on Library and Information Resources.
- Hiller, S. (2001). Assessing user needs, satisfaction, and library performance at the University of Washington Libraries. *Library Trends* 49(4), 605-625.
- Hiller, S., & Self, J. (2004). From measurement to management: Using data wisely for planning and decision-making. *Library Trends* 53(1), 129.
- Kyrillidou, M., & Crowe, W. (2001). In search of new measures. *Journal of Library Administration*, 35(4), 19.
- Leighton, P. D., & Weber, D. C. (1989). The influence of computer technology on academic library buildings: A slice of recent history. In Richardson, J.V., & Davis, J.Y. (Eds.), *Academic librarianship, past, present, and future: A festschrift in honor of David Kaser* (pp. 13-30). Englewood, Colo.: Libraries Unlimited.

Lochstet, G. S., & Lehman, D. H. (1999). A correlation method for collecting reference statistics. *College & Research Libraries* 60(1), 45-53.

Shill, H. B., & Tonner, S. (2004). Does the building still matter? Usage patterns in new, expanded, and renovated libraries, 1995 - 2002. *College & Research Libraries* 65(2), 123.

Storey, T. (2006). Are you asking the ultimate question? *NextSpace*. Available:
<http://www.oclc.org/nextspace/005/1.htm>

Stoudenmire, C. (2006). Club Cooper offers late-night hot spot: USC library keeps doors open all day, replaces five points as hang out. *The Daily Gamecock*. Available:
<http://media.www.dailygamecock.com/media/storage/paper247/news/2006/12/01/Viewpoints/Club-Cooper.Offers.LateNight.Hot.Spot-2516532.shtml>

Weiner, S. A. (2005). Library quality and impact: Is there a relationship between new measures and traditional measures? *Journal of Academic Librarianship* 31(5), 432.

Wiegand, W. A., & Davis, D. G. (Eds.). (1994). *Encyclopedia of library history*. New York: Garland Pub.